

CLAIMS:

1. Apparatus for connecting a remote machine to a central system by way of a network comprising:

a message generator for creating a message for transmission over the network, the message comprising information identifying the type of machine;

a receiver for receiving and storing a unique identifier from a central system,

the message generator subsequently creating messages using the unique identifier

2. The apparatus of claim 1 in which the network is a TCP/IP network.

3. The apparatus of claim 1 in which the network is a wireless network.

4. The apparatus of claim 1 in which the connection is established through a gateway device that provides protocol or address translation.

5. The apparatus of claim 1 comprising memory in the central system for storing the unique identifier and information identifying the type of machine.

6. The apparatus of claim 1 in which the message is a registration message.

7. The apparatus of claim 6 in which the registration message includes: identifying information; information on the type of asset (e.g. Manufacturer, Product, Model, Version); network address and accessibility.

8. The apparatus of claim 6 comprising memory for storing a token indicating that the machine is registered, and inhibiting subsequent sending of registration messages.

9. The apparatus of claim 6 in which the registration message includes a non-unique identifier and the response from the server includes a unique identifier to be used by the asset in subsequent messages.

10. Apparatus for connecting a remote machine to a central system comprising:
a message generator for sending a registration message to a central system, the registration message including a unique identifier;
memory for storing a schedule;
a scheduler for periodically activating the message generator according to the stored schedule;
a receiver, activated for a predetermined time after the message generator is activated for receiving messages from the central system

11. The apparatus of claim 9 comprising a receiver for receiving an acknowledgement of the registration message and storing a token indicating that the machine is registered.

12. The apparatus of claim 11 comprising a controller for inhibiting the sending of subsequent registration messages in response to the token.

13. The apparatus of claim 10 in which the receiver receives a schedule from a central system and stores the schedule in the memory.

14. The apparatus of claim 13 in which the receiver receives a schedule from a central system in response to a registration message.

15. The apparatus of claim 10 in which the remote machine is a gateway device that provides protocol or address translation to further machines.

16. The apparatus of claim 15 in which the gateway maintains the schedule and interacts with the further machines as required to satisfy the schedule.

17. Apparatus for connecting a remote machine to a central system through a firewall that prevents incoming connections to the machine comprising:

a message generator for sending a registration message to a central system;
memory for storing a schedule;

a scheduler for periodically activating the message generator according to the stored schedule for creating a temporary two way connection to a central system.

18. The apparatus of claim 17 comprising a listener responsive to messages from the central system.

19. The apparatus of claim 18 in which the apparatus receives a schedule from the central system and stores the schedule in the memory.

20. Apparatus for connecting a remote machine to a central system through a system that establishes solely transient connections to the machine and the central system comprising:

a message generator for sending a registration message to a central system;
memory for storing a schedule;

a scheduler for periodically activating the message generator according to the stored schedule for sending messages to the central system, each message including a message identifier;

a listener receiving messages from the central system, each received message including a message identifier corresponding to the message identifier of one sent message

21. Apparatus for connecting a remote machine to a central system through a system that establishes solely transient connections to the machine and the central system comprising:

a message generator for sending a registration message to a central system;
a listener receiving messages from the central system, each received message including a message identifier

the message generator sending responsive messages to the central system, each responsive message including a message identifier corresponding to the message identifier of one received message;

22. A method of communicating between a server and an asset comprising the steps of:

queueing one or more request messages on the server;

logging the one or more request messages on the server;

sending a polling message from the asset to the server;

sending one of the one or more request messages to the asset in response to the polling message;

sending a responsive message from the asset to the server;

receiving the responsive message at the server and reconciling the responsive message with the logged request;

continuing to send request messages to the asset until the queue is empty.

23. The method of claim 22 in which the step of sending a polling message comprises sending polling messages at a predetermined interval.

24. The method of claim 22 comprising:

detecting an event at the asset requiring interactivity; and

sending one or more polling messages to the server in response to the fault.

25. The method of claim 24 in which the step of sending one or more polling messages comprises sending one or more polling messages at a second interval shorter than the predetermined interval.

26. The method of claim 25 in which the second predetermined interval is set by the server.

27. The method of claim 22 in which the server sends one or more of the queued messages to the asset in response to any message from the asset received by the server.

28. The method of claim 22 in which the server sends an indication of a queued message to the asset in response to various messages from the asset received by the server.

29. The method of claim 22 in which the message from the server includes a request for establishing an interactive session and the responsive message from the asset establishes an open connection through which subsequent messages are sent.

30. The apparatus of claim 22 in which the remote machine is a gateway device that provides protocol or address translation to further machines.

31. The apparatus of claim 30 in which the gateway maintains the schedule and interacts with the further machines as required to satisfy the schedule.